



**Jefferson City, Missouri  
November 1, 2008**

# **2008 ANNUAL REPORT**

**Prepared For:**

**The Honorable Matt Blunt, Governor**

**The Honorable Rod Jetton, Speaker  
Missouri House of Representatives**

**The Honorable Mike Gibbons, President Pro Tem  
Missouri Senate**



**Matt Blunt**  
Governor

**Greg Steinhoff**  
Chair

November 1, 2008

The Honorable Matt Blunt  
Office of the Governor  
Room 216, State Capitol  
Jefferson City, Missouri 65101

The Honorable Rod Jetton, Speaker  
Missouri House of Representatives  
State Capitol  
Jefferson City, Missouri 65101

The Honorable Mike Gibbons  
President Pro Tem  
Missouri Senate  
State Capitol  
Jefferson City, Missouri 65101

Dear Governor Blunt, Speaker Jetton and President Pro Tem Gibbons:

As required by state law in section 348.256 (6) RSMo, I am hereby submitting the Missouri Technology Corporation's 2008 Annual Report. The Missouri Technology Corporation's Board of Directors approved the report at its meeting held on October 27, 2008. We believe the report is a fair and accurate description of the structure, operations and financial status of the MTC.

Please contact us should you require more information about the Missouri Technology Corporation or its role in helping Missouri's economy prosper through the better development and use of technologies.

Very truly yours,

A handwritten signature in black ink, appearing to read "Greg Steinhoff", written over a light blue circular graphic.

Greg Steinhoff  
Chair

c: MTC Board of Directors

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## Introduction

This 2008 Annual Report of the Missouri Technology Corporation (MTC) is written in response to the legal mandate contained in Section 348.256(6) RSMo, which states:

"The corporation shall submit an annual report to the governor and to the Missouri general assembly. The report shall be due on the first day of November for each year and shall include detailed information on the structure, operation and financial status of the corporation. The corporation shall conduct an annual public hearing to receive comments from interested parties regarding the report, and notice of the hearing shall be given at least fourteen days prior to the hearing."

In order to comply with the law, the MTC report is due to be completed and submitted to the Governor, the Senate President Pro Tem, and the Speaker of the House on November 1, 2008. MTC conducted the annual public hearing on October 27, 2008, in order to receive comments from interested parties regarding the work of the organization in the past year.

## MTC's Legislative Mandate

The Missouri Technology Corporation (MTC) is a private not-for-profit corporation established pursuant to Sections 348.251 to 348.266 of the RSMo and subject to the provisions of Chapter 355, RSMo. The purpose of the MTC is to help strengthen the economy of the state through the development of science and technology, to promote the modernization of Missouri businesses by supporting the transfer of science, technology and quality improvement by providing leadership in the establishment of methods of technology application, technology commercialization and technology development.

In accomplishing its goals, the MTC has broad powers that allow for a wide range of activities that enhance research and development, technology transfer and commercialization. For example:

- The MTC is able to assist in establishing cooperative associations of universities and private enterprises in Missouri for the purpose of coordinating research and development programs.
- The MTC can establish a statewide business modernization network to assist Missouri businesses in identifying ways to enhance productivity and market competitiveness.
- The MTC can specify areas where scientific research and technological investigation will contribute to the improvement of productivity of Missouri manufacturers and identify scientific and technological problems and opportunities related to the economy of Missouri and formulate proposals to overcome those problems.
- It can also make direct seed capital or venture capital investments in Missouri business investment funds or businesses that demonstrate the promise of growth or job creation.

## MTC Progress Report

During 2008, Missouri Technology Corporation (MTC) continued its leadership role in the development and implementation of some of Missouri's most significant technology programs and initiatives. Among those were Governor Blunt's Lewis and Clark Discovery Initiative and the Missouri Life Sciences Research Trust Fund. MTC also continued to oversee the operations of the Missouri Innovation Centers, which now includes ten centers with this year's approval of the St. Joseph Innovation Center.

### Governor Blunt's Lewis & Clark Discovery Initiative

Signed into law in May of 2007, the Lewis & Clark Discovery Initiative (LCDI) provides Missouri's colleges and universities with \$335 million in total funding for facility and infrastructure improvements. LCDI is a statewide plan to enhance the Missouri higher education system's position as a national leader in scientific research and education. New research labs, teaching facilities, business incubators, and a plant science research center will be constructed. Funds provided by the initiative will be augmented by more than \$134 million in federal and local matching money, resulting in a total investment of approximately \$480 million, one of the nation's largest and most comprehensive higher education building programs.

In addition to these funds targeted toward research and education, \$15 million was directed to the MTC for various programs designed to improve commercialization of Missouri technologies. The funds are focused on three main areas of need: 1) improving collaboration between public and private sector research institutions; 2) facilitating technology commercialization at all phases; and 3) enhancing technology company recruitment efforts. MTC will utilize these funds to work with the state's research institutions, industry, technology commercialization service providers, and capital investors to maximize the opportunities created by Missouri research.

Selected programs created by LCDI are highlighted below.

#### Animal Health and Nutrition Center

MTC continues to work in close cooperation with the University of Missouri-Columbia, the University of Missouri-Kansas City, and animal health companies and organizations located in the Kansas City area to explore the establishment of an animal health and nutrition center in the Kansas City-St. Joseph region, which is considered a global leader in the industry with more than 37 major companies. \$200,000 in funding was allocated to MTC to provide for the planning of this project and the development of associated research and development programs at partnering universities and companies in the Kansas City-St. Joseph region.

**Grant Award Recipient:** Kansas City Area Life Sciences Institute, Inc.

**Description of Project:** MTC grant funds were used to conduct a study for the purposes of determining the feasibility of establishing an Animal Health and Nutrition Center in the Kansas City, Missouri region.

**Amount of Grant Award:** \$100,000 with the option of an additional \$100,000 (reimbursable grant).

**Status of Project:** Grant Award executed on June 20, 2008. The Feasibility Study has been completed and was submitted to the MTC for review. The KCALSI has submitted a request to the MTC for the additional Phase II funding.



**Animal Health Workforce Development Initiative**

A public-private coalition comprised of Missouri Western State University (MWSU) and leading companies in the St. Joseph area are spearheading an effort to create a GXP regulated training laboratory that will help ensure the region's animal health and nutrition industry continue to have access to a highly skilled workforce. (The term "GXP" refers to Good Manufacturing Practices (GMP), Good Laboratory Practices (GLP), or Good Clinical Practices (GCP).) The laboratory and workforce training facility will be located on the MWSU campus and will offer comprehensive courses in all necessary skill sets in both a classroom and real world environment. MTC granted \$175,000 to assist in the establishment of this comprehensive workforce training center.



Photo courtesy of the Institute for Industrial and Applied Life Sciences.

**Grant Award Recipient:** Missouri Western State University

**Description of Project:** Grant funds used to acquire equipment, lab supplies, hardware and casework for the training laboratory at the Institute for Industrial and Applied Life Sciences to meet the growing skilled workforce demands of the animal health industry.

**Amount of Grant Award:** \$175,000

**Status of Project:** Grant Award executed in March 2008. The lab equipment and supplies have been ordered and are being received. Above is a picture of a wet lab located in the Institute for Industrial and Applied Life Sciences.

**Missouri Power Resource Center/Missouri Center for Advanced Power**

In conjunction with the University of Missouri-Columbia, the University of Missouri-Rolla, Missouri State University and Missouri Southern State University, MTC is helping to lay the groundwork for a power resource center in Joplin, Missouri. The Missouri Center for Advanced Power (MOCAP) will partner with industry leading Missouri companies, such as Eagle Picher, Inc., focused on cutting-edge technology related to power and next generation batteries. Areas of emphasis will include nano-technology, nano-materials, and micro devices. Applications for these technologies span a vast range of increasingly important uses – from space travel to nuclear power to "green" automobiles. \$200,000 in funding was included in LCDI for costs associated with the planning and development of this project as well as associated programs at partnering universities.

**Grant Award Recipient:** Joplin Business and Industrial Development Corporation

**Description of Project:** MOCAP will develop educational opportunities to train students in research and development of advanced power system technology while supporting the growth of the power system manufacturing sector of Missouri.

**Amount of Grant Award:** \$200,000

**Status of Project:** Grant award executed on June 20, 2008. Delays in the Missouri Highway Patrol Crime Lab in Carthage have delayed the project. The curriculum development between the higher education partners is progressing well.

#### **Missouri Technology Incentive Program (MOTIP)**

##### **Formerly High-Tech Small Business Incentive Program**

MTC was allocated \$1.25 million to be utilized for loans and grants to high-tech small businesses located in Missouri. These funds will be invested in companies seeking federal Small Business Innovation Research (SBIR) Program and Small Business Technology Transfer (STTR) Program grant funds. The MOTIP bridge loan program is designed to address a funding gap between Phase I and Phase II SBIR/STTR awards when many high-tech small businesses are at greater risk of failure or relocation to states with incentives targeted toward relocation of promising start-ups. A portion of these funds has been targeted for Missouri small businesses and universities to assist in the development of grant proposals to federal agencies commonly referred to as "Phase Zero" grants.

**Grant Award Recipient:** University of Missouri/MOFAST

**Description of Project:** Provides funding to two programs: (1) MOFAST Phase 0 grants up to \$5,000 to assist companies submitting a SBIR or STTR grant; and (2) Phase I/II Bridge Loan up to \$50,000 to companies for gap funding to maintain momentum of technology development as a Phase I grant funded project and to build toward the Phase II of federal funding.

**Amount of Grant Award:** \$1,250,000 (reimbursable grant)

**Status of Project:** MOFAST has awarded 47 Phase 0 grants totaling \$234,024. Funds are not released until the application has been filed with the federal agency. Three Bridge Loans have been approved to date totaling \$50,000 per loan.

#### **Missouri Venture Partners**

##### **Formerly MTC Entrepreneur Pipeline Program/Plant and Ag Biotech Seed Capital Co-Investment Fund**

The Missouri Venture Partners (MVP) Program will help Missouri fill a void of seed capital to invest in high growth technology companies through the creation of a \$15 million (minimum) seed capital investment fund. The program is designed to encourage the mining of discoveries and innovations at Missouri institutions with the assistance of hands on development by the contracted fund manager and their team – Finistere Ventures, LLC targeting food, fuel, and health opportunities in early stage agbio, agritech, and medical devices/diagnostics areas. Other goals for the fund manager are investing in technology companies that will relocate all or part of their operations to Missouri and accessing complementary technologies across the globe which could be combined with Missouri derived discoveries that drive new company formation and collaboration.

The MVP is proposed to be a Missouri-focused, active early stage seed venture fund that would invest between \$15 – 25 million over eight years. The MVP will be seeded with \$3 million that was line itemed to the Missouri Technology Corporation (MTC) in the

Lewis and Clark Discovery Initiative for seed capital co-investment and the establishment of an entrepreneurship pipeline. The remaining \$12-22 million will be raised from institutional investors and private/corporate investors by the contracted fund manager.

### **Who is Finistere Ventures, LLC?**

Finistere Ventures, LLC is an established venture capital fund, with specific expertise in Agricultural technology, including Ag Biotech, Medical Devices and other segments of the Life Sciences industry. The firm focuses on "early stage" companies typically requiring US\$1-5M in first or second round capital investments. Chairman, CEO and Founder, Dr. Jerry Caulder, has close personal and professional ties to the State of Missouri and leads a team of venture investment professionals with substantial operating experience in agriculture-related companies, and in the identification, investment, and commercialization of, new technologies. Based in San Diego, CA the fund has access to new investment opportunities as well as technology partnerships across both national and international networks.

### **Jerry Caulder, Executive Chairman and CEO, Finistere Ventures, LLC**

Often referred to as the "father of agricultural biotechnology," Dr. Jerry Caulder is the executive chairman of Finistere Partners, LLC. Dr. Caulder has an unparalleled record of success in the life science industry. His career began at Monsanto, where for 15 years he held a number of management positions including responsibility for Monsanto's early venture investment activity and worldwide responsibility for commercial development and introduction of all new agricultural products. In 1983 Dr. Caulder came to San Diego and became the Chairman and Chief Executive Officer of Mycogen, Inc., then a start-up plant biotech company.

Under Dr. Caulder's direction, Mycogen became a highly successful Ag Biotech company until acquired by Dow Agro Sciences ([www.dowagro.com](http://www.dowagro.com)) in 1998. At the time of its acquisition, Mycogen's market capitalization exceeded US\$1.2B. Since then, Dr. Caulder has held similar positions in a number of high profile biotech businesses—Myelos Pharmaceutical, a therapeutic drug discovery company and Akkadix, a plant discovery and gene regulation company. Dr. Caulder is currently Executive Chairman of Athenix Corporation, a venture backed plant sciences company based in Research Triangle, North Carolina; and PhytaGro, Inc., a plant sciences company based in California and New Zealand. Dr. Caulder is also director of Catharos, Inc., an early stage Bay Area medical devices company.

Until June 2005, Dr. Caulder was Executive Chairman of Advanced Stent Technologies, Inc., a cardiac intervention medical devices company based in Northridge, California. He also serves on the board of advisors to both of Burrill & Co's Ag Biotech venture funds and was involved in the founding of many local, state and national biotech industry groups and initiatives. Dr. Caulder is internationally well recognized and is a frequent speaker at industry forums. He is one of the few individuals who has served as a CEO across the entire life sciences spectrum, (medical devices, Ag Biotechnology and pharmaceutical biotechnology).

Dr. Caulder is a product of the Missouri educational system. He holds a BS from Southeast Missouri State University, MS and PhD from the University of Missouri and honorary Doctorates from both Universities. He has been selected as the outstanding alumni from the University of Missouri. Dr. Caulder was one of the original directors of



the NIDUS Center, an incubation center located in St Louis. He served on that board with several distinguished members, including the current Chancellor of Washington University, St. Louis Missouri, Mark S. Wrighton. Dr. Caulder has been an advisor to the Missouri Soybean Merchandising Council for over 15 years. He has advised them on the investments for tens of millions of dollars for research programs in Missouri institutions. He still owns and operates a farm in the Bootheel of Missouri. He has worked with local venture groups such as Prolog. Dr. Caulder is an advisor on the Governor's Biotechnology Advisory Council and through this has relationships with many local investors. Dr. Caulder is a long time friend and colleague of Dr. Roger Beachy, the President/CEO of the Donald Danforth Plant Science Center.

Arama Kukutai, Managing Director, Finistere Ventures, LLC

Arama Kukutai joined Finistere Partners, LLC, in 2005 after a successful career in international business, diplomacy and investing. As Regional Director - North America, he led the New Zealand government's trade development agency in North America from 2001 until 2005, establishing multiple pathways for New Zealand businesses to access this key market. U.S.-New Zealand trade reached US\$5B in 2004, making it the second most valuable market globally for the country. Responsible for the U.S., Canadian and Central American markets, Mr. Kukutai advised companies in the information technology and manufacturing industries, also establishing the "beach head" model for technology transfer and commercialization in Silicon Valley and Ft. Lauderdale to enable foreign companies to establish a presence in the U.S. Prior to taking his appointment in the U.S., he led both the IT and finance teams for Trade New Zealand as head of Corporate Services and was a finalist in 2000 management magazine "Young Executive of the Year."

Mr. Kukutai has had an active career in investment, both in commercial banking at Westpac Banking Corporation and as chairman of the farming arm of PKW Incorporation, a NZ\$250M agribusiness and diversified investment entity involved in agriculture, aquaculture and international business development in Asia and Australia. PKW is also a cornerstone investor in the companion fund, Finistere-Oceania Fund I, LP. Mr. Kukutai has lived and worked internationally for much of his career and brings a strong Asia-Pacific focus to the General Partner's activities.

**Status of Project:**

The MTC conducted an RFP and approved the selection of Finistere Ventures, LLC as the promoter and fund manager. The MTC approved the terms of a consulting agreement for the promotion/fund raising phase on October 13, 2008. Finistere Ventures is currently in the process of raising the balance of the fund.

**Intellectual Property Management Fund**

\$1.1 million of LCDI funds was allocated to MTC for the establishment of an intellectual property management fund to help Missouri start-up companies and universities protect the intellectual property rights for promising new technologies. These funds will help alleviate a significant bottleneck which exists in small company formation due to a lack of financial resources for filing appropriate patent protections. Once more technologies are protected through patents and other legal means, more venture capital and seed funding will flow to Missouri start-ups, stimulating economic growth across the state. The fund will be available to Missouri-based start-up companies that are recommended by Missouri Innovation Centers, Missouri Small Business Development Centers, and

University technology transfer offices. Up to \$15,000 for the preparation, filing, and prosecution of a patent application will be provided to eligible applicants through the fund. MTC is also pursuing projects to help defray the cost of intellectual property insurance premiums for the protection of key technologies from potential litigation regarding patent infringement or to help start up companies access more conventional financing.

**Status of Project:** MTC is contracting with the Intellectual Property and Business Formation Clinic at the Washington University School of Law to perform an initial review and screening of the technologies applying for IPMF funding. Applications for this funding may be found at [www.moipmf.org](http://www.moipmf.org).

### **Medical Device Innovation Program**

The opportunities for increasing Missouri's expertise in the development of medical device innovations and start up companies related to these discoveries can be found all across Missouri. This exciting field represents a significant opportunity for increasing deal flow and start up companies in Missouri. Part of the focus for this program is targeted toward mentoring student fellows through the process of successfully bringing new patented surgical devices and engineered health care solutions to the health care market. The program will facilitate the production of high-quality, innovative professionals who have the desire and knowledge to continue commercializing new medical technologies. The Medical Device Innovation Program is designed to enhance collaboration between physicians, engineers, and business people in a manner that creates new entrepreneurial opportunities. LCDI included \$350,000 in funds for the field of medical device innovation.

**Grant Award Recipient:** MU Biodesign and Innovation Program; University of Missouri-Columbia

**Description of Project:** Funds will be used to support stipends and benefits for the program fellows and guest lecturers and related educational training materials. The program will bring new medical technologies and health care solutions into the market while producing high quality innovative professionals.

**Amount of Award:** \$100,000

**Status of the Project:** Grant awarded June 2008. Currently, three Biodesign Fellows are being funded and are in the first phase of training which includes an orientation to the University of Missouri and tours of the hospital and engineering departments. Phase 1 is defined as Clinical Immersion where the Fellows gain experience by shadowing physicians and observing in the operating room, conducting rounds in the intensive care units and patient floors and interviewing and interacting with physicians. The Fellows are currently narrowing their list of needs to present to the advisory board which will then begin Phase 2 of the project.

### **St. Louis Information Technology (IT) Initiative**

This project was funded with \$1 million to leverage local dollars invested in ongoing efforts to make St. Louis a national leader in the creation of information technology companies and employment opportunities through the collaborative efforts of the University of Missouri-St. Louis High Performance Computing Center and Innovate St. Louis. This consortium comprised of business, civic, university leaders, and the St. Louis Regional Chamber and Growth Association is working to enhance the region's entrepreneurial environment and spur innovation and entrepreneurship in the IT sector.

**Grant Award Recipients:** University of Missouri-St. Louis and Innovate St. Louis

**Descriptions of projects:** UMSL is using the grants funds for the purpose of establishing a High Performance Computing Center in the newly established "IT Enterprises." Innovate St. Louis is using the grant funds for the purpose of funding the establishment of a comprehensive, regional Hybrid Information Technology Incubation Network business incubator without walls.

**Amount of Awards:** \$850,000 to UMSL

\$150,000 to Innovate St. Louis

**Status of Project:** Grants executed in March 2008. The construction of the HPC Center is primarily completed and one tenant moved into the space in July 2008. The Information Technology Incubation Network has been renamed to the Information Technology Entrepreneur Network, and is supporting the IT companies housed in the Technology Entrepreneur Center (TEC), IT Enterprise at UMSL (ITe), Center for Emerging Technologies (CET), and the Nidus Center for Scientific Enterprise. Currently, 62 companies are in the ITEN program. A web portal is under development. Below are two recent photos of the HPC Center.



Photos courtesy of ITe

### **Opportunity Fund for Bioenergy Research Center**

\$3.25 million in funds has been allocated to help enhance Missouri's competitive position when seeking major federal research facilities, such as a U.S Department of Energy Bioenergy Research Center or the U.S. Department of Homeland Security's National Bio and Agro-Defense Facility. These types of major projects are at various stages of consideration and development around the state in the field of agricultural research. They are of a sufficient size and scale that they would make a large and lasting impact on Missouri's innovation economy for years to come. The Opportunity Fund will provide our state with a competitive advantage when competing for landmark research centers.

**Status of Projects:** Missouri was not selected to move forward with the federal projects. The MTC is currently working with the research officers from several universities, including the University of Missouri four campuses, Washington University and other Missouri research institutions to foster opportunity and collaboration.

### **Missouri Open Innovation Network**

The MTC was allocated \$250,000 to implement a knowledge sharing system that: collects innovation-related data from Missouri organizations focused on research and development (R&D); supports Missouri-based collaborations through information

sharing; and catalogues intellectual assets for global R&D organizations considering investing R&D dollars in Missouri. This network will result in more grants and contracts won due to teams built using the network, more start-ups and business expansions resulting from investments facilitated by the network, and an increase in licensing activity through use of the system by prospective investors. The primary access point for communication and innovation sharing will be an innovative and user-friendly web-based portal that will be linked to institutions and companies throughout the state.

Funding in this category will also be allocated to create a statewide Missouri Sourcelink website based on the award winning KC Sourcelink program. Missouri Sourcelink provides a web based portal for start-up companies and budding entrepreneurs, connecting them with the appropriate resources available among the public sector service providers designed to assist them. MTC will integrate these new web-based resources with a newly redesigned website that displays the best of Missouri's growing high tech research endeavors and start up companies.



**Grant Award Recipient:** University of Missouri-Kansas City

**Project Description:** The purpose of the grant is to provide funding to Missouri SourceLink for the development of additional features and functions of the website to connect Missouri businesses to university resources which offer business-building services for small businesses. The web site can be found at [www.mosourcelink.com](http://www.mosourcelink.com).

**Amount of Award:** \$90,000

**Status of Project:** Grant awarded June 2008. MOSourceLink formally launched at the Missouri Governor's Conference on Economic Development on September 12, 2008. Over 200 nonprofit organizations that provide direct services to support entrepreneurs and small business growth have signed on as resource partners.

#### **Emerging Firms Mapping Project**

With a small development grant provided by the Hawthorn Foundation, Express Academic Services, in cooperation with researchers from the Economics and Management of Agrobiotechnology Center both in the College of Agriculture Food and Natural Resources at University of Missouri-Columbia, developed a web portal for Missouri's life sciences industry—the Missouri Life Sciences Project (MLSP). The Project seeks to connect companies, private and public research institutions, government agencies and other organizations in ways that expand Missouri's robust Life Sciences industry. The proposed project will expand the functionality of the MLSP both as a showcase of the industry and for recruitment. The total amount of funding under this project is \$50,000.

**Grant Award Recipient:** The Economics and Management of Agrobiotechnology Center (EMAC), part of the Division of Applied Social Sciences under the University of Missouri Sponsored Programs.

**Project Description:** The project will update the current life science database with appropriate information that will allow geo-referenced mapping.

See [www.missourilifesciences.org](http://www.missourilifesciences.org).



**Amount of Award:** \$35,000 (reimbursable grant)

**Status of Project:** Agreement executed in June 2007. The staff at EMAC continues to update the web site with completion of the project scheduled for December 2008.

### **High Tech Marketing Promotions Fund**

This matching marketing program, with a \$350,000 allocation, is designed to encourage Missouri companies designated within DED's targeted high-tech industries to seek out new international markets, with targeted export opportunities in the European, Asian, and Australian marketplaces. Missouri companies willing to jointly sponsor tradeshow initiatives endorsed by MTC and the offices of economic development within the University of Missouri and Missouri State University may apply for matching support to offset costs of participating in unified statewide tradeshow pavilions that promote the state's assets. Projects must be at least a 50-50 match opportunity.

**Grant Award Recipients:** Missouri Biotechnology Association - \$10,000  
Missouri Enterprise Technology Association - \$5,000  
Missouri Biotechnology Association - \$324,500

**Project Description:** \$10,000 was paid to sponsor the 2007 MoBIO Life Sciences Summit and \$5,000 was to sponsor the Leap-It Forward Conference. A grant to MOBIO totaling \$324,500 is for the purpose of aggressively marketing the biosciences industry in Missouri by funding several targeted international biotech conferences. Marketing the Missouri biosciences industry at targeted international biotech conferences will draw attention to the bioscience resources and capabilities available in Missouri and further the development of the industry in Missouri.

**Status of Project:** Grant award to MOBIO was executed in June 2008 as a reimbursable grant for the costs of events. A list of planned events follows:

- International BIO 2009 in Atlanta, Georgia (June 2009)
- BIO Israel BIOMed Conference in Tel Aviv (May 2009)
- AdvaMed 2008 Conference in Washington, D.C. (September 2008)
- U.S. Biomedical Engineering Society Annual Meeting in St. Louis (October 2008)
- DIA Annual Meeting and International Conference in San Diego, California (June 2009)



Photo courtesy of MOBIO

**The Missouri Pavilion** was front and center in the San Diego Convention Center Exhibition Hall at BIO 2008 in June, 2008. Missouri's pavilion served as the gathering place and "home base" for our attendees and interested partners. There were multiple opportunities to showcase your company to the more than 21,000 international attendees, and our presence provided an impressive display of the biotech strengths of the Midwest.

**Collaboration and Interdisciplinary Degree Programs for Masters and Ph.D.**

**Students** This project is meant to facilitate a greater collaboration between degree programs at Missouri universities and other public and private entities. The total amount allocated to this project is \$350,000.

**Project Description:** Media Convergence Group is a global multi-perspective news enterprise whose founders moved from San Francisco, California to Columbia, Missouri to partner with the University of Missouri, particularly the MU School of Journalism as the chief collaborator for their media convergence sequence. MCG will take advantage of relationships with the business school, engineering school, and language specialists from the college of arts and sciences to fully develop the ability to synthesize and present the world's news perspectives in a high value online video format that is extremely valuable in the burgeoning online video advertising market.

**Funding Recipient:** Media Convergence Group, Inc. (MCG) for \$250,000

**Status of Project:** The MTC board approved a loan of \$250,000 to MCG to equip a state of the art newsroom at the MU Journalism School in order to develop the ability to synthesize and present news in a high value online video format. The agreements have been executed. You may visit their web site at [www.newsy.com](http://www.newsy.com).

**AgBiotech Outreach Program**

This funding will complement a federally supported project to challenge communities to leverage rural Missouri's interest in becoming energy independent, as well as to strengthen K-12 science curriculum to facilitate the entrance into tomorrow's knowledge based economy. State assistance would be entirely devoted to promotion and marketing of biofuels and renewable energy topics. The funding amount is \$125,000.

**Status of Project:** The MTC is working with MoBIO to develop projects.

**AgBiotech Company Recruitment Fund**

The MTC received \$3,350,000 to recruit and retain agbiotech companies in the state of Missouri through investments that make Missouri a more attractive home for these agbiotech companies.

**Grant Award Recipient:** Institute of Industrial and Applied Life Sciences for \$250,000

**Project Description:** MTC will provide a grant totaling \$250,000 to the Institute of Industrial and Applied Life Sciences in St. Joseph to purchase equipment for the laboratory build-out at the Kit Bond Science and Technology Center. The build-out will result in the relocation of an animal health company currently based in Phoenix, Arizona to be the first tenant of the incubator.

**Status of Project:** The grant agreement was executed in October 2008.

### **Research Alliance of Missouri (RAM)**

The Research Alliance of Missouri is constituted as a non-incorporated team of the chief research officers of each of the state's colleges, universities, and non-profit research institutions that expend not less than \$10 million for scientific research on an annual basis. RAM's day-to-day operations are performed by the executive director of MTC who assists the organization in furtherance of its two main goals: increasing the number of multi-university research proposals and awards; and improving collaboration between the research and business communities. The RAM board of directors meets on a regular basis and in the past the organization sponsored several research seminars designed to enhance opportunities for research collaborations and Missouri-based technology businesses. A list of RAM members can be found on page 20 of this report.

### **The University of Missouri Technology Park at Fort Leonard Wood**

In 1999, MTC advocated for a state investment in a new technology park to be located at Fort Leonard Wood, Missouri's largest and most significant military installation. In response to this request, the Governor and General Assembly appropriated \$2 million to MTC for this purpose. During this critical time, the university matched the state's investment with \$2 million of its own funds and took on the role of managing partner. Thus, a highly successful partnership between MTC, the University of Missouri System, and Fort Leonard Wood was born with MTC retaining a 45 percent interest in the venture and the university owning the remainder.



Photo courtesy of <http://mrpbusinesscenter.org/>

Today, Building One at the University of Missouri Technology Park at Fort Leonard Wood is fully utilized and is producing a positive cash flow. Because of the proven demand for space to accommodate organizations engaged in strategic partnerships with the military, MTC and the University of Missouri worked together to secure funding to construct a second building that could meet existing market demand. That building was funded by a loan from the University of Missouri to the partnership. Construction began in the fall of 2004 and the facility opened for business in May of 2005. MTC has agreed to utilize positive cash flow from Building One to retire debt on the second building over a ten-year period.

With two buildings at full capacity and having validated the demand for space, the University and MTC are actively working to market the technology park for further development and make full use of the unique enhanced use lease (EUL), the only private technology park located on an active military installation in the United States. With the right private sector partners, the University and MTC will be able to assure the long term development of the tech park, maximizing the positive impact on the state's economy.

**Strategic Partnership with The Innovation Factory**

MTC has entered into a strategic partnership with The Innovation Factory, a St. Louis-based virtual go-to-market business incubator that works with start-ups to reduce risk, maximize opportunity, and reduce the cycle time from start-up to maturity through a seven-stage process that includes the provision of services such as business model development, capital fundraising, outsourcing of non-core business functions (e.g. accounting, legal), and consulting on core business functions (e.g. account management, operations). The Innovation Factory team members have successfully launched eight companies, three of which have grown at a rate sufficient to earn membership in Inc. Magazine's list of 500 fastest growing private companies in America. Over the last year, MTC has introduced the Innovation Factory team to on the shelf technologies at Missouri research universities and connected them with our entire public sector service provider network including the innovations centers, small business development centers, and technology transfer offices. Early results point to start ups being funded earlier and an increase in deal flow.

**Support for the Life Sciences Research Trust Fund (LSTF)**

At the invitation of the Missouri Life Sciences Research board of directors, MTC has assumed responsibility for the administration of the LSTF. Key responsibilities include drafting the request for proposals (RFPs) for the research and commercialization projects, scientific peer review services, and centers for excellence. While the Life Sciences Research Board retains all decision-making authority, MTC will play an important role in ensuring that these dollars are invested wisely by managing the grant-making and follow-up process in a seamless, informative, and organized fashion.

In 2007, House Bill 7 appropriated \$13.45 million to the Life Sciences Trust Fund in the areas of bioenergy, plant science and animal health and nutrition. Fourteen grants were awarded in the research and commercialization areas totaling \$13.1 million. Details on the process and the grants can be found in the 2007 Life Sciences Trust Fund Spending Plan.

In 2008, the General Assembly and Governor approved \$21 million to the Life Sciences Trust Fund (\$13.4 million available for new grants with the remainder going to fund on-going projects approved by the Life Science Research Board). The language included an expansion into medical devices, biomaterials and composite research, diagnostics, nanotechnology related to drug development and delivery, clinical imaging and information technology related to human health. The LSRB received 183 letter of intent proposals of which the LSRB invited 66 to submit a full proposal. These proposals are currently undergoing the peer review process. Final funding decisions by the LSRB are scheduled to be made in November 2008.

**Technology Commercialization Partnership**

MTC has worked closely with the University of Missouri Extension and the University of Missouri Economic Development office to develop an aggressive and comprehensive approach toward high-tech business growth that is increasing the university's role as an important economic driver and better aligning the public sector service providers assisting start ups in Missouri. Specifically, MTC has focused on working with MU Extension to develop a more effective collaboration between the SBDC's, Innovation



Centers, technology transfer offices, and Department of Economic Development Industry Specialists.

### **Missouri Innovation Centers**

MTC oversees the Missouri Innovation Center program, which is funded through the Missouri Department of Economic Development. An innovation center is a state-sponsored, not-for-profit organization that helps entrepreneurs bring new technologies to the marketplace. There are currently ten innovation centers located throughout the state.

CENTER NAME	LOCATION	EXECUTIVE DIRECTOR
Center for Emerging Technologies	St. Louis	Marcia Mellitz
Missouri Enterprise	Rolla	Rick Prugh
Missouri Research Corporation	Cape Girardeau	Dennis Roedemeier
Missouri Innovation Center	Columbia	Jake Halliday
Newman Business and Technology Innovation Center	Joplin	Steve Russell
Springfield Innovations, Inc.	Springfield	Allen Kunkel
Brush Creek Enterprise Center/Kansas City SourceLink	Kansas City	Maria Meyers
Missouri Rural Enterprise and Innovation Center	Kirksville	Charlene Boyes
Institute for Entrepreneur Studies and Development	Warrensburg	Mark Manley
Institute for Industrial and Applied Life Sciences	St. Joseph	Gary Clapp

Since opening in 1998, the Center for Emerging Technologies has been a major contributor to the economic growth of St. Louis. CET provided technology development, consulting and training to over 300 companies during FY2008. CET, an incubator for life sciences companies, showcased 17 tenant companies in their most recent annual report including 14 life science companies and three IT/engineering companies, all of whom raised a total of \$20 million in funding. Stereotaxis is one notable CET graduate who developed a range of products and solutions for cardiac interventional medicine built around magnetic technology.

Missouri Enterprise, located in Rolla, also manages the University of Missouri Technology Park at Fort Leonard Wood. They reported much success in 2008, including over \$15 million in client revenues and \$4 million in client research and federal grants awarded. Missouri Enterprise also works closely with the Missouri University of Science and Technology to provide early stage assistance to technology-related ventures being developed by the university.

The Missouri Research Corporation is located on the campus of Southeast Missouri State University in Cape Girardeau and fills a huge need in historically the most economically challenged portion of the state. They worked with over 200 clients in FY2008 resulting in 26 new jobs created and over \$2 million in funding being raised.

Columbia is home to the Missouri Innovation Center whose goal is to support the creation of high-growth enterprises in mid-Missouri. MIC's highest priority in FY2008 was supporting the funding and construction of the MU Life Sciences Incubator at Monsanto Place. The incubator is projected to open in October 2008. In addition they provided assistance to 57 clients, which resulted in the creation of 23 new jobs. These clients reported approximately \$1.7 million in the sales of products or product licensing

and were successful in raising more than \$4 million.

The Joseph Newman Innovation Center in Joplin reported another successful year in FY2008, working with over 700 companies/individuals through several educational training programs and providing on-site consulting to approximately 100 companies or individuals. Twenty-one new jobs were created with over \$2.5 million in client revenues reported. The Newman Center also operates an incubator and currently has nine tenants.

The Brush Creek Enterprise Center contracted with the University of Missouri-Kansas City and specifically KC Source Link to operate the innovation center in Kansas City during FY2008. KCSOURCELINK reported having worked with 950 clients in FY2008 through on-site consulting and educational training programs. Ten companies were identified as being "high" potential clients with 33 selected for technology evaluation. The center was successful in creating 129 jobs in FY2008 and reported client revenues totaling \$42 million and over \$4 million in investments.

The Missouri Rural Enterprise & Innovation Center in Kirksville focuses on the needs of rural communities and rural business enterprises across the state with specific emphasis on the northern half of the state. They work closely and collaborate with the City of Kirksville and Truman State University. MREIC, designated in June 2006, was successful in working with 42 clients and reported over \$600,000 in client revenues for FY2008.

Springfield Innovation, Inc. focuses on assisting technology-based entrepreneurs and businesses and maintains a close relationship with Missouri State University. Springfield Innovation, Inc. is part of the Jordan Valley Innovation Center to allow collaboration with the Center for Applied Science and Engineering (CASE) and the Center for Biomedical and Life Sciences (CBLS) as needed. In FY2008, Springfield Innovation reported working with over 40 clients and creating 17 new jobs. These clients reported receiving \$860,000 in research and grant support.

Opened in 2007, the Entrepreneurial Innovation and Development Corporation (EIDC) in Warrensburg has worked as a catalyst for entrepreneurs by partnering with the local Small Business Technology Development Center to generate over \$21 million in economic impact. In FY2008, EIDC provided educational training to over 1,000 businesses and individuals and consulted directly with 19 clients. These clients reported the creation 17 new jobs, additional revenues of \$18 million and raising approximately \$3.75 million.

The Institute for Industrial and Applied Life Sciences in St. Joseph was designated as a Missouri Innovation Center by the MTC in April 2008. St. Joseph has a well established cluster of firms in the agricultural sciences, particularly in animal nutrition and therapeutics and in agricultural chemicals and crop preparation, and the innovation center plans to focus their assistance to Missouri companies in these areas.

#### **Small Business Development Centers (SBDCs)**

SBDCs offer comprehensive and individualized business management counseling to small business owners and entrepreneurs. The centers have a staff of skilled "counselors" with experience in areas that are highly important to new entrepreneurs such as marketing, sales, accounting, financial analysis, cost control systems, and personnel

management. The SBDC program also offers the Missouri Small Business Technology Development Centers (MO SBTDC), which encourages and enhances technology research and development, technology transfer, and technology deployment.

#### **Missouri Federal and State Technology Partnership (MOFAST)**

The MOFAST program is administered through the University of Missouri and provides counselors located in Columbia, St. Louis, Kansas City and Rolla/Springfield to assist startup and small Missouri technology businesses to seek out, apply for and win government research and development awards to the small businesses. Awards of these federal grants will help maintain the technology and proceeds from its commercialization in Missouri. The MOFAST counselors are an important component of MTC's Missouri Technology Incentive Program (MOTIP).

#### **Technology Transfer Offices**

Technology Transfer Offices for public and private universities are important partners in the development of start up companies and increasing deal flow. The better universities are at efficiently handling their intellectual property, then the quicker researchers and start up companies can take their innovations and discoveries to market. MTC is very supportive of recent efforts to change the technology transfer policies at the University of Missouri system. The change in measuring success by the number of new start ups rather than strictly licensing income is having a dramatic impact on early stage deal flow with more start ups being created.

#### **Missouri Department of Economic Development (DED) Industry Specialists**

DED has eight industry sector specialists whose primary function is to advise the department's director and business retention and recruitment staff on various industry-related matters. Four of the industry sectors identified as part of this effort are technology related – life sciences, defense-homeland security, energy, and information technology. While these individuals serve as informal advisors to MTC, MTC's executive director also serves on their respective advisory boards. This symbiotic relationship is representative of MTC's collaborative approach toward economic development.

DED Industry Specialists for the four technology-related industries are: Bill McCoy, Defense/Homeland Security; Bob Donnelly, Information Technology; Jessica Eads, Life Sciences; and Terry Maglich, Energy.

## APPENDIX A

### MTC 2008 Meeting Schedule

During 2008, the MTC Board held numerous meetings in order to fulfill its obligations and the expectations of DED and other policymaker partners.

The meeting schedule was as follows:

- January 17, 2008                      Teleconference
- March 27, 2008                      Teleconference
- April 25, 2008                      Fort Leonard Wood
- June 6, 2008                        Teleconference
- June 27, 2008                      Kansas City
- October 13, 2008                  Teleconference
- October 27, 2008                  St. Louis (Annual Public Meeting)

MTC Executive Committee:

- February 28, 2008                  Teleconference
- June 6, 2008                        Teleconference

MTC Innovation Center Committee:

- February 22, 2008                  Teleconference



## APPENDIX B

### Missouri Technology Corporation Board of Directors

**Greg Steinhoff, Chair**  
**Dan Mehan, Vice Chair**  
**Frank Stokes, Secretary-Treasurer**

Mr. Gregory A. Steinhoff  
Boone County National Bank  
Columbia, MO 65205

Dr. Jim Baker  
Vice President for Research and Development  
Missouri State University  
Springfield, MO

Mr. Frank Stokes  
CEO  
Innovate St. Louis  
St. Louis, MO

Mr. Joseph G. Bannister  
President and CEO  
JGB Advisors, LLC  
St. Louis, MO

Mr. Edward J. (Ed) Timm  
President  
Mobius Therapeutics, LLC  
St. Louis, MO

Mr. Daniel P. Devers  
Partner  
Shook, Hardy & Bacon LLP  
Kansas City, MO

Delegate for President of University of Missouri  
Dr. Michael F. Nichols  
Vice President for Research and Economic Dev.  
University of Missouri  
Columbia, MO

Mr. Thomas E. "Jake" Fisher  
Superintendent  
University of Missouri Delta Research Center  
Portageville, MO

Delegate for Director of Department of  
Economic Development  
Mr. Bill McCoy  
Business Development Manager  
Division of Business and Community Services  
Missouri Department of Economic Development  
Jefferson City, MO

Dr. F. Nicholas Franano  
Chief Scientific Officer  
Proteon Therapeutics, Inc.  
Kansas City, MO

Victoria A. Gonzalez  
President and CEO  
Nidus Center for Scientific Enterprise  
St. Louis, MO

#### **Ex-officio members:**

\*The Fort Leonard Wood Garrison Commander  
and two RAM members serve in an ex-officio  
capacity.

Senator John Griesheimer  
Missouri State Senate  
Jefferson City, MO

COL. John Megnia  
Garrison Commander at Fort Leonard Wood  
Fort Leonard Wood, MO

Mr. Daniel P. Mehan  
President and CEO  
Missouri Chamber of Commerce & Industry  
Jefferson City, MO

Dr. Krishna Krishnamurthy  
Vice Provost for Research  
Office of Sponsored Programs  
Missouri University of Science & Technology  
Rolla, MO

Mr. Donn Rubin  
Executive Director  
Coalition for Plant and Life Sciences  
St. Louis, MO

Nasser Arshadi, Ph.D.  
Vice Chancellor for Research  
University of Missouri-St. Louis  
St. Louis, MO

## Research Alliance of Missouri Membership List

**Dr. Krishna Krishnamurthy, Chair**  
**Dr. Nasser Arshadi, Treasurer**

Nasser Arshadi, Ph.D.  
Vice Chancellor for Research  
University of Missouri-St. Louis

John Baumann, Ph.D.  
Vice Provost for Research  
University of Missouri-Kansas City

Roger N. Beachy, Ph.D.  
President  
Donald Danforth Plant Science Center

Maria DiStefano, Ph.D.  
Associate Vice President for Academic Affairs  
Dean of the Graduate School  
Truman State University

Alan G. Glaros, Ph.D.  
Associate Dean of Basic Medical Sciences  
KC University of Medicine & Biosciences

Rob Duncan, Ph.D.  
Vice Chancellor for Research  
Office of Research  
University of Missouri-Columbia

Marie Jennings  
Public Relations Specialist  
Stowers Institute for Medical Research

Jane C. Johnson  
Director, Office of Research Support  
A.T. Still University of Health Sciences

Krishna Krishnamurthy, Ph.D.  
Vice Provost for Research  
Office of Sponsored Programs  
Missouri University of Science & Technology

Allen Kunkel  
Assistant Vice President for  
Economic Development  
Missouri State University

Michael F. Nichols, Ph.D.  
Vice President for Research and Economic Dev.  
University of Missouri

Dennis Roedemeier  
CEO  
Missouri Research Corporation  
Southeast Missouri State University

Samuel Stanley, M.D.  
Vice Chancellor for Research  
Washington University  
Alternate for Dr. Stanley:  
Michael Marrah, Ph.D.  
Assistant Vice Chancellor  
Washington University

Delegate for DED Director  
Bill McCoy  
Business Development Program  
Division of Business and Community Services  
Missouri Department of Economic Development

Victoria Steel  
Director of Sponsored Programs  
University of Central Missouri

Frank Veeman, Ed.D  
Regional Director  
Small Business Development Center  
Northwest Missouri State University

## APPENDIX C

### MTC Balance Sheet

#### As of September 30, 2008

	<u>Total</u>
<b>ASSETS</b>	
Current Assets	
Bank Accounts	
Central Bank Checking	13,338,049.46
Total Bank Accounts	\$ 13,338,049.46
Other Current Assets	
N/R - Cerimark, LLC	50,000.00
N/R - VirRx, Inc.	50,000.00
Note Receivable - Media Convergency Group	250,000.00
Total Other Current Assets	\$ 350,000.00
Total Current Assets	\$ 13,688,049.46
Fixed Assets	
Office Equipment	12,252.58
Accumulated Depreciation	-9,497.53
Total Office Equipment	\$ 2,755.05
Total Fixed Assets	\$ 2,755.05
Other Assets	
Investment in UM/FLW Technology	1,493,622.00
Rent Deposit	0.00
Total Other Assets	\$ 1,493,622.00
<b>TOTAL ASSETS</b>	<b>\$ 15,184,426.51</b>
<b>LIABILITIES AND EQUITY</b>	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	0.00
Total Accounts Payable	\$ 0.00
Other Current Liabilities	
Central Bank Note	0.00
Payroll Liabilities	2,215.00
Total Other Current Liabilities	\$ 2,215.00
Total Current Liabilities	\$ 2,215.00
Total Liabilities	\$ 2,215.00
Equity	
Opening Bal Equity	1,478,242.35
Retained Earnings	14,211,462.39
Net Income	-507,493.23
Total Equity	\$ 15,182,211.51
<b>TOTAL LIABILITIES AND EQUITY</b>	<b>\$ 15,184,426.51</b>

Thursday, October 9, 2008 - Cash Basis

*Balance Sheet reports Net Income for the Fiscal Year beginning July 1, 2008.*

### MTC Profit and Loss Statement October 2007 – September 2008

	<b>Total</b>
<b>Income</b>	
Contributions Income	337,109.00
Project Income	13,949,998.93
Administration Income	1,050,001.07
Total Contributions Income	\$ 15,337,109.00
Miscellaneous Income	132.00
Total Income	\$ 15,337,241.00
<b>Expenses</b>	
Advertising	11,981.07
Automobile Expense	68.25
Conference - Expense	2,099.69
Depreciation Expense	2,632.80
Dues and Subscriptions	2,000.00
Fees	990.00
Insurance	3,185.00
Licenses and Permits	20.00
Meetings	846.18
Office Supplies	307.46
Payroll Expenses	12,712.79
Wages	78,980.88
Total Payroll Expenses	\$ 91,693.67
Payroll Tax	5,153.14
Postage and Delivery	900.51
Printing and Reproduction	293.96
Professional Fees	159,000.00
Accounting	15,764.97
Consulting	1,000.00
Legal Fees	317,581.41
Total Professional Fees	\$ 493,346.38
Program Expense	1,272,050.00
Telephone	1,340.46
Travel	103.74
Meals	328.53
Travel	10,239.07
Total Travel	\$ 10,671.34
Total Expenses	\$ 1,899,579.91
Net Operating Income	\$ 13,437,661.09
<b>Other Income</b>	
Interest Income	182,656.25
Total Other Income	\$ 182,656.25
Net Other Income	\$ 182,656.25
Net Income	\$ 13,620,317.34

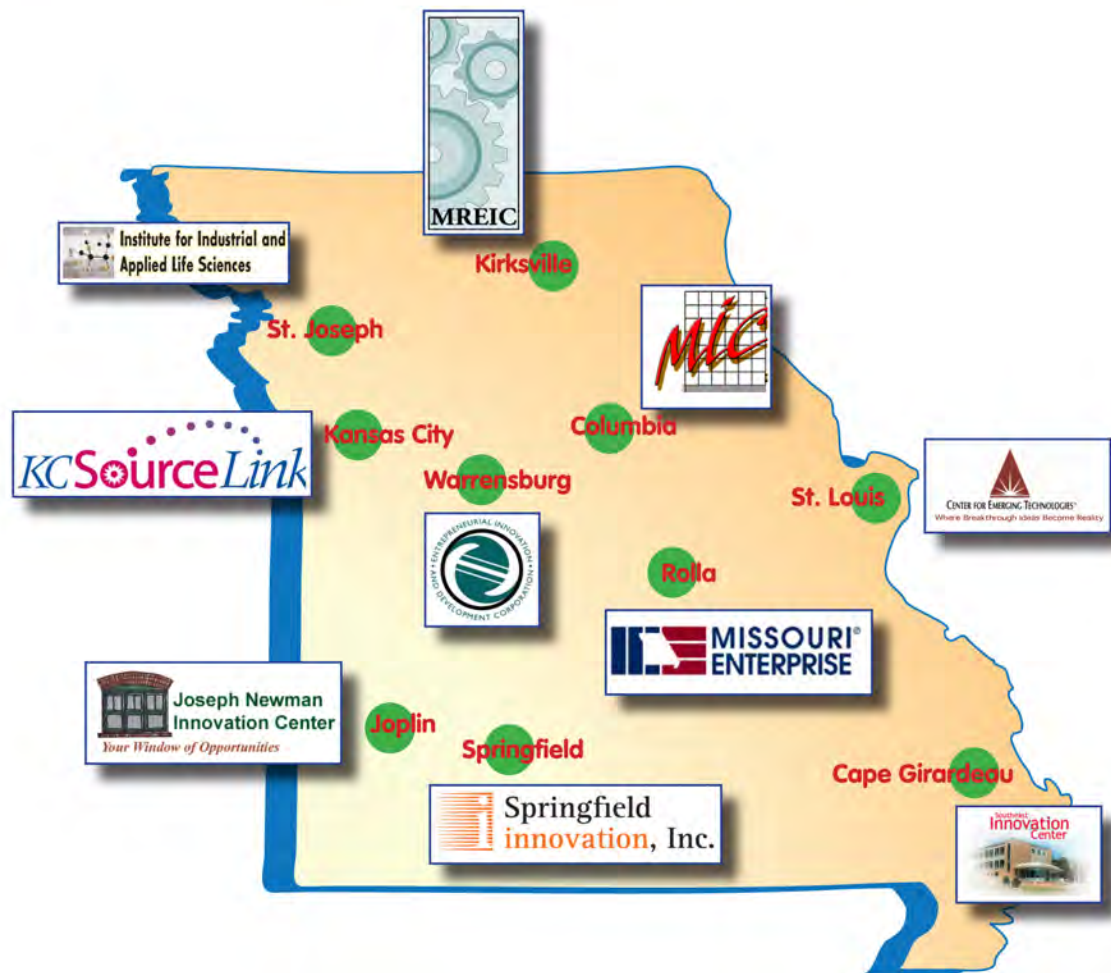
Thursday, October 9, 2008 - Cash Basis

*Profit and Loss Statement is for the period of October 1, 2007 through September 30, 2008, which crosses two fiscal years; therefore Net Income is reported as portion of Retained Earnings on Balance Sheet.*



## APPENDIX D

# Missouri Innovation Centers



Missouri Technology Corporation

301 W. High Street, Suite 680

P.O. Box 2137

Jefferson City, Missouri 65102

A decorative graphic at the bottom of the page consisting of two overlapping wavy lines. The top line is a dark gray color, and the bottom line is a solid blue color. They create a layered, wave-like effect across the width of the page.